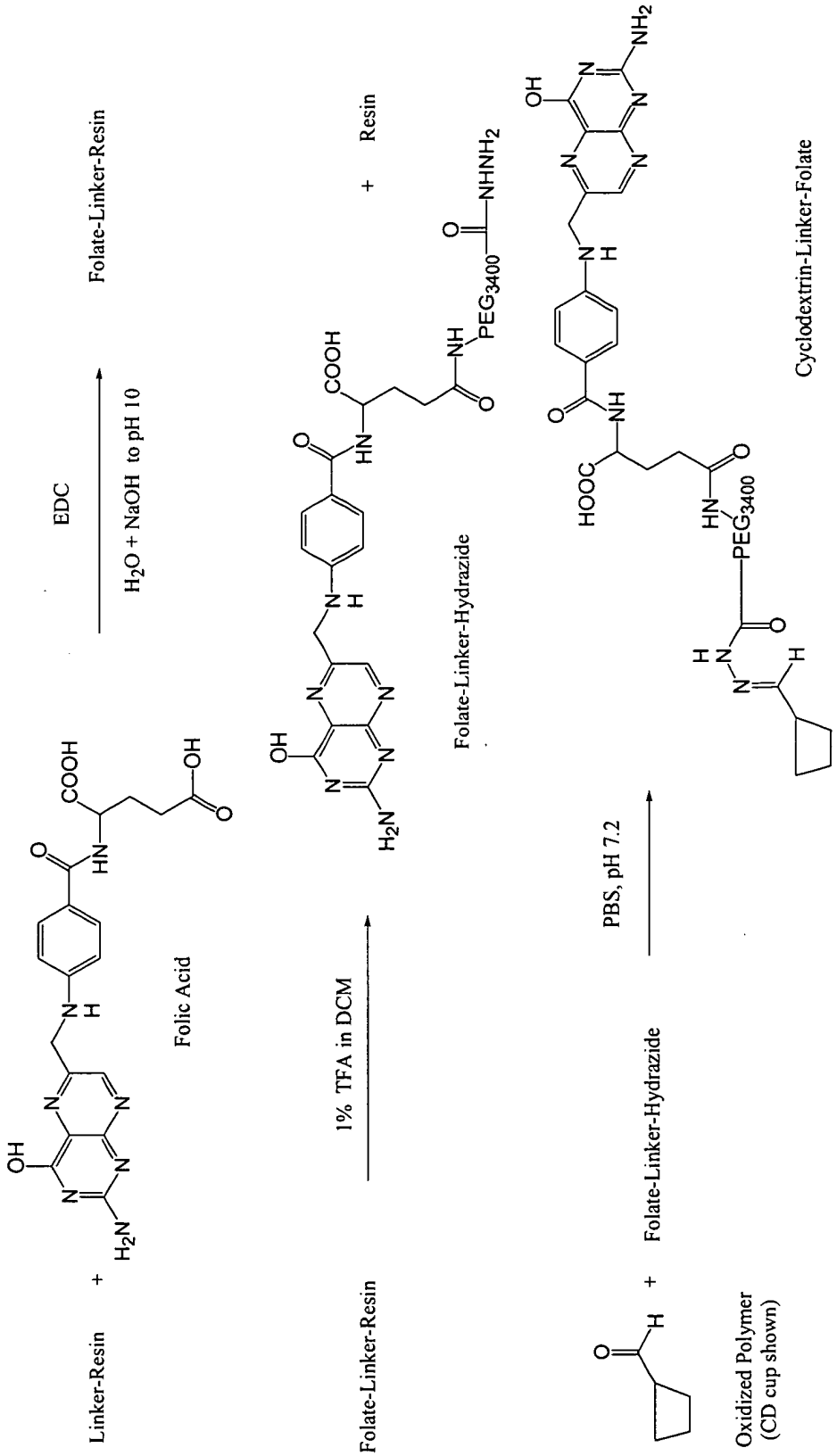
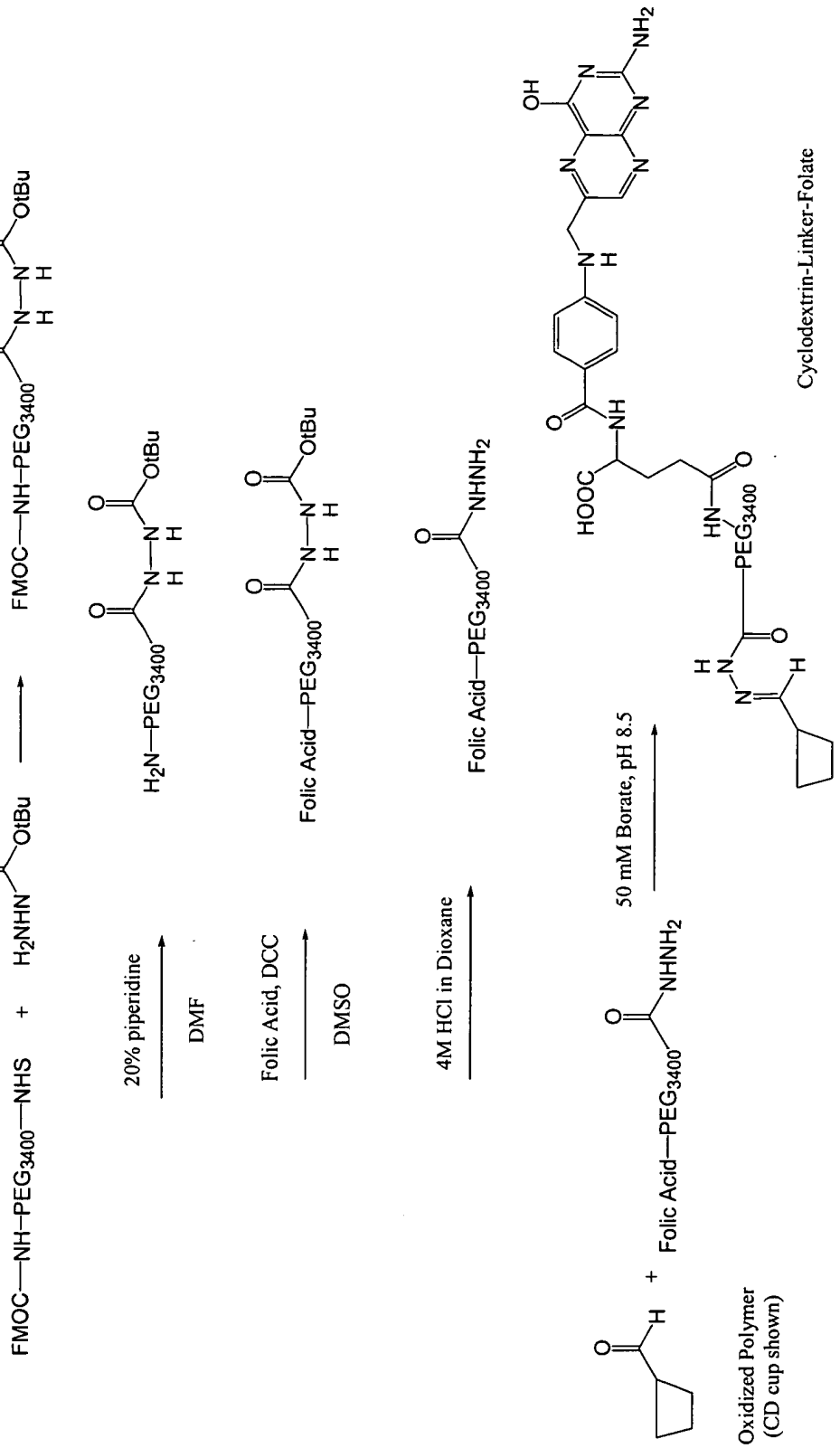

Linker-Resin
+
Folic Acid
EDC
H_2O + NaOH to pH 10
Folate-Linker-Resin
Folate-Linker-Resin
1% TFA in DCM
+ Resin
Folate-Linker-Hydrazide
Folate-Linker-Hydrazide
PBS, pH 7.2
Oxidized Polymer
(CD cup shown)
Cyclodextrin-Linker-Folate

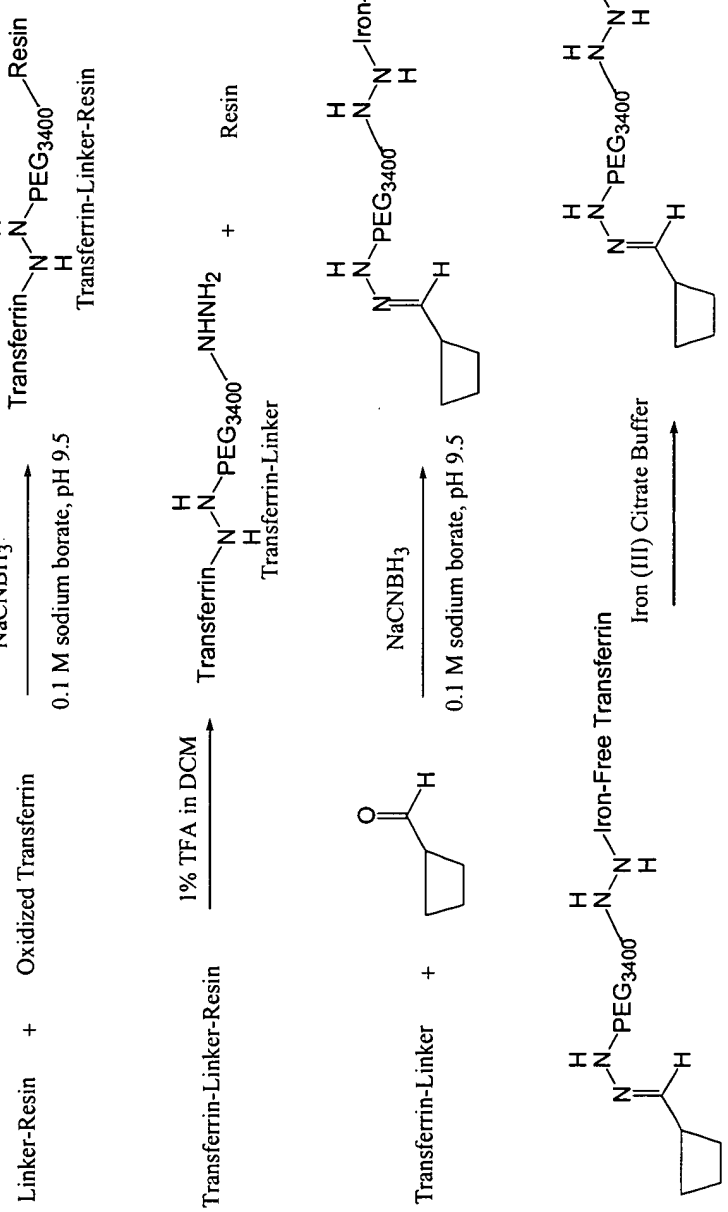
f2

SYNTHESIS OF FOLIC ACID-PEG-HYDRAZIDE



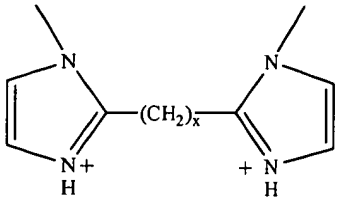
F3

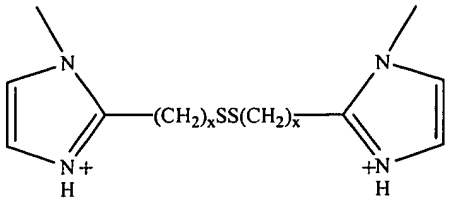
TRANSFERRIN ATTACHMENT TO CYCLODEXTRIN POLYMER



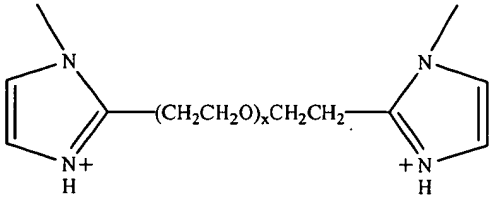
2. On page 14, please delete the three structures on the bottom of the page and replace them with the following corrected structures:

F4



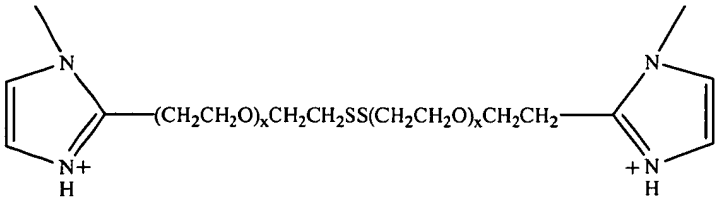


F5



3. On page 15, please replace the structure on the top of the page with the following corrected structure:

F6



4. On pages 53, 57, 58, 59, and 60, please delete the graphs. The graphs are replaced by Figures in the following manner:

N.E. Not in Proper format for entry

Page Number of Original Graph	Figure
53	1A and 1B
57	2

58	3
59	4A
60	4B

Appendix B contains clean copies of Figures 1-4 with drawing labels.

5. On page 52, delete the paragraph starting at line 8, and insert the following paragraph:

BHK-21 cells were plated in 24 well plates at a cell density of 60,000 cells/well 24 hours before transfection. Plasmids encoding the luciferase gene were encapsulated by the CD-polymer as in Example 23 except copolymer **15** was replaced with copolymer **16** and that the DNA/polymer complexes successfully transfected BHK-21 cells at charge ratios of 10, 20, 30, and 40 with maximum transfection at polymer amine:DNA phosphate charge ratio of 20. Media solution containing the DNA/polymer complexes was added to cultured cells and replaced with fresh media after 24 hours of incubation at 37°C. The cells were lysed 48 hours after transfection. Appropriate substrates for the luciferase light assay were added to the cell lysate. Luciferase activity, measured in terms of light units produced, was quantified by a luminometer. The results are illustrated below. DNA/polymer complexes successfully transfected BHK-21 cells at a charge ratios of 6, 12, and 24. Cell lysate was also used to determine cell viability by the Lowry protein assay. (Lowry et al., *Journal of Biological Chemistry*, Vol. 193, 265-275 (1951)). The results are illustrated in Figures 1A and 1B. Maximum toxicity was seen at a polymer amine: DNA phosphate charge ratios of 40 and 50 with 33% cell survival.

6. On page 55, please delete the paragraph starting at line 15 and insert the following paragraph:

Plasmids encoding the luciferase gene were encapsulated by the CD-polymer as in Example 23 except copolymer **15** was replaced with copolymer **16**. The DNA/polymer complexes were used to successfully transfect BHK-21 or CHO-K1 cells, each plated in 24 well plates at a cell density of 60,000 cells/well 24 hours before transfection, at various charge ratios in 10% serum and serum-free conditions following the procedure outlined in Example 27. The cells were lysed 48 hours after transfection. Appropriate substrates for the luciferase light assay were added to the cell lysate. Luciferase activity, measured in terms of light units produced (*i.e.,* relative light units (RLU)), was quantified by a luminometer. Cell lysate was also used to determine cell viability by the Lowry protein assay. (Lowry et al., *Journal of Biological Chemistry*, Vol. 193, 265-275 (1951)). Toxicity was measured by determining total cellular protein in the wells 48 hours after transfection. The transfection and cell survival results in 10% serum and serum free media are illustrated in Figures 2 and 3.

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7. On page 59, please delete the paragraph starting at line 3, and insert the following paragraph:

Following the procedure of Example 32, transfection efficiency and toxicity of various non-viral vectors with BHK-21 and CHO-K1 cells were studied and compared against those

F9 concld

achieved with DNA/copolymer **16** complexes. The BHK-21 and CHO-K1 cells were transfected at a range of charge ratios and starting cell densities for all vectors in serum-free media. The results are illustrated in Figures 4A and 4B, and illustrate the optimum transfection conditions found for each vector.

8. At age 7, line 20, please insert the following description of the figures before "Detailed Description of the Invention,":

Brief Description of the Figures:

Figure 1 depicts Transfection Studies with Plasmids Encoding *Luciferase Reporting Gene*: Figure 1A, Transfection with copolymer 16; and Figure 1B, Toxicity of copolymer 16 to BHK-21.

F10

Figure 2 depicts Transfection and Toxicity of Copoloymer 16 to BHK-21.

Figure 3 depicts Transfection and Toxicity of Copolymer 16 to CHO-K1.

Figure 4 relates to Comparative Example 1 and depicts Transfection Studies with Plasmids Encoding *Luciferase Reporter Gene*: Figure 4A, Relative Light Units; and Figure 4B, Fraction Cell Survival